

# REPORT ON MACHINERY.

Port of Dundee

Received at London Office 18

No. in Survey held at Dundee Date, first Survey 9<sup>th</sup> February Last Survey 6<sup>th</sup> July 1898  
Reg. Book. on the Steel Screw Tug "Floresco" (Number of Vents 28)

Master Mearns Built at Dundee By whom built Dundee Shipbuilders Co Ltd When built 1898  
Tons { Gross 58.1  
Net 1.45

Engines made at Dundee By whom made Messrs Whyte & Mair when made 1898

Boilers made at Dundee By whom made Messrs Whyte & Mair when made 1898

Registered Horse Power \_\_\_\_\_ Owners J. Constant Port belonging to London

Nom. Horse Power as per Section 28 48.6/0

ENGINES, &c.— Description of Engines Inverted, direct acting compound No. of Cylinders two

Diameter of Cylinders 15" - 30" Length of Stroke 22' Revolutions per minute 125 Diameter of Screw shaft as per rule 6.01  
as fitted 5.41 Diameter of Crank shaft journals 6 1/4" Diameter of Crank pin 6 1/2" Size of Crank webs 12 1/2" x 4"

Diameter of Tunnel shaft as fitted 6" Diameter of Crank shaft journals 6 1/4" Diameter of Crank pin 6 1/2" Size of Crank webs 12 1/2" x 4"

Diameter of screw 4' - 6" Pitch of screw 10' - 0 No. of blades 3 State whether moveable No Total surface 19 1/2 f

No. of Feed pumps one Diameter of ditto 2 1/2 Stroke 11 Can one be overhauled while the other is at work ✓

No. of Bilge pumps one Diameter of ditto 2 1/2 Stroke 11 Can one be overhauled while the other is at work ✓

No. of Donkey Engines one Sizes of Pumps 4 1/2 x 2 3/4 x 4 No. and size of Suctions connected to both Bilge and Donkey pumps  
in Engine Room Two 2" In Holds, &c. Fore hold one - 2" ; Aft hold one - 2"

No. of bilge injections 1 sizes 3 1/2 Connected to condenser or circulating pump Yes Is a separate donkey suction fitted in Engine room & size Yes 2"

Are all the bilge suction pipes fitted with roses Yes Are the roses in Engine room always accessible Yes Are the sluices on Engine room bulkheads always accessible None

Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Both

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Yes Are the discharge pipes above or below the deep water line above

Are they each fitted with a discharge valve always accessible on the plating of the vessel Yes Are the blow off cocks fitted with a spigot and brass covering plate Yes

What pipes are carried through the bunkers None How are they protected ✓

Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times Yes

Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges Yes

When were stern tube, propeller, screw shaft, and all connections examined in dry dock Not in dry dock Is the screw shaft tunnel watertight None

Is it fitted with a watertight door ✓ worked from ✓

BOILERS, &c.— (Letter for record (S)) Total Heating Surface of Boilers 668

No. and Description of Boilers One steel cylindrical single ended Working Pressure 120 Tested by hydraulic pressure to 240

Date of test 24/5/98 Can each boiler be worked separately ✓ Area of fire grate in each boiler 33 f No. and Description of safety valves to  
each boiler two spring Area of each valve 4.91 Pressure to which they are adjusted 125 lbs Are they fitted

with easing gear Yes Smallest distance between boilers or uptakes and bunkers or woodwork 9" Mean diameter of boilers 10' - 0 3/4

Length 9' - 0" Material of shell plates Steel 2 1/2 tons Thickness 3/4 Description of riveting: circum. seams Lap double long. seams Lap treble

Diameter of rivet holes in long. seams 1 1/8 Pitch of rivets 4 1/2 Lap of plates or width of butt straps 4 3/4

Percentage of strength of longitudinal joint 45 Working pressure of shell by rules 120 Size of manhole in shell 16 x 12

Size of compensating ring Mc Keils No. and Description of Furnaces in each boiler 2 - plain Material Steel Outside diameter 34 1/8

Length of plain part 76 Thickness of plates 9 Description of longitudinal joint Dub Butt Ling Riv No. of strengthening rings one  
49 1/2 indusone 76

Working pressure of furnace by the rules 121 Combustion chamber plates: Material Steel Thickness: Sides 15/32 Back 1/2 Top 15/32 Bottom 9/8

Pitch of stays to ditto: Sides 7/8 x 7/8 Back 8 x 7/2 Top 7/8 x 7/8 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 120

Material of stays Steel Diameter at smallest part 1 1/4 Area supported by each stay 60 Working pressure by rules 165 End plates in steam space:

Material Steel Thickness 3/4 Pitch of stays 14 1/4 How are stays secured 2 nuts Working pressure by rules 125 Material of stays Steel

Diameter at smallest part 1 3/32 Area supported by each stay 203 Working pressure by rules 130 Material of Front plates at bottom Steel

Thickness 3/4 Material of Lower back plate Steel Thickness 9/8 Greatest pitch of stays 16 1/2 doubled 9/16 Working pressure of plate by rules 146

Diameter of tubes 3 3/4 Pitch of tubes 5" x 5 1/2 Material of tube plates Steel Thickness: Front 3/4 Back 1/16 Mean pitch of stays 10 1/16

Pitch across wide water spaces 16" doubled 1/2 Working pressures by rules 160 lbs Girders to Chamber tops: Material steel Depth and

Thickness of girder at centre 6 1/2" x 1" Length as per rule 23 Distance apart 7 1/8" Number and pitch of Stays in each 2 - 7 3/8"

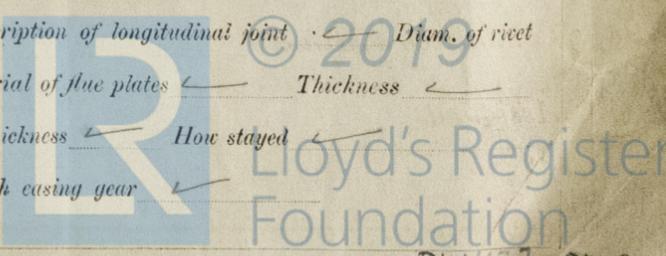
Working pressure by rules 163 Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked

separately ✓ Diameter ✓ Length ✓ Thickness of shell plates ✓ Material ✓ Description of longitudinal joint ✓ Diam. of rivet

holes ✓ Pitch of rivets ✓ Working pressure of shell by rules ✓ Diameter of flue ✓ Material of flue plates ✓ Thickness ✓

stiffened with rings ✓ Distance between rings ✓ Working pressure by rules ✓ End plates: Thickness ✓ How stayed ✓

Working pressure of end plates ✓ Area of safety valves to superheater ✓ Are they fitted with easing gear ✓



**DONKEY BOILER—** Description

Made at \_\_\_\_\_ By whom made \_\_\_\_\_ When made \_\_\_\_\_ Where fixed \_\_\_\_\_  
 Working pressure tested by hydraulic pressure to \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area \_\_\_\_\_ Description of safety valves \_\_\_\_\_  
 No. of safety valves \_\_\_\_\_ Area of each \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ If fitted with easing gear \_\_\_\_\_ If steam from main boilers can enter the donkey boiler \_\_\_\_\_  
 Diameter of donkey boiler \_\_\_\_\_ Length \_\_\_\_\_ Material of shell plates \_\_\_\_\_ Thickness \_\_\_\_\_  
 Description of riveting long seams \_\_\_\_\_ Diameter of rivet holes \_\_\_\_\_ Whether punched or drilled \_\_\_\_\_ Pitch of rivets \_\_\_\_\_  
 Lap of plating \_\_\_\_\_ Per centage of strength of joint \_\_\_\_\_ Rivet Plates \_\_\_\_\_ Thickness of shell crown plates \_\_\_\_\_ Radius of do. \_\_\_\_\_ No. of Stays to do. \_\_\_\_\_  
 Dia. of stays \_\_\_\_\_ Diameter of furnace Top \_\_\_\_\_ Bottom \_\_\_\_\_ Length of furnace \_\_\_\_\_ Thickness of furnace plates \_\_\_\_\_ Description of joint \_\_\_\_\_ Thickness of furnace crown plates \_\_\_\_\_ Stayed by \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_  
 Working pressure of furnace by rules \_\_\_\_\_ Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_

**SPARE GEAR.** State the articles supplied:— Two con rod top end bolts and nuts, 2 bottom end bolts & nuts, 2 main bearing bolts & nuts, six coupling bolts and nuts one set feed pump, helge pump and check valves, assorted iron bolts and nuts, and one propeller.

The foregoing is a correct description,

Manufacturer. *Whyte & Mair*

**General Remarks** (State quality of workmanship, opinions as to class, &c. *The machinery of this vessel has been built under special survey and in accordance with the approved plans and Secretary's letters and in general conformity with the Rules. The material and workmanship are sound and good. The boiler has been tested by hydraulic pressure also examined under steam and found tight and sound in every respect. The machinery is now in a good and safe working condition and renders the vessel eligible in my opinion to have the notation of LMC-7.98 in the Register Book.*)

It is submitted that this vessel is eligible for THE RECORD. + £ 6.7.98

*W*  
11/7/98

The Surveys are registered with the Committee's Minute.

Certificate (if required) to be sent to *Sunder office*

The amount of Entry Fee..	£ 1 : 0 : 0	When applied for,
Special .. .. .	£ 8 : 0 : 0	8 <sup>th</sup> July 1898
Donkey Boiler Fee .. .	£ :	When received,
Travelling Expenses (if any) £	9 : 0 : 0	13.7.98

*W Morrison*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute **TUES. 12 JUL 1898**

Assigned *+ LMC 7.98*

MACHINERY CERTIFICATE WRITER

